REMARKS

Claims 1 – 28 remain in the application. Claims 1 – 28 stand rejected. Claims 1 and 9 are amended herein. The rejection of the claims is respectfully traversed.

Claim 9 is objected to for having inconsistent dependency, i.e., reciting "said 2D and 3D capacitance templates" at lines 1 and 2. Responsive thereto, claim 9 is amended herein. Reconsideration and withdrawal of the objection to claim 9 is respectfully requested.

Claims 1 – 2 are rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,610,833 to Chang et al. Claims 1 – 28 are rejected under 35 U.S.C. §102(e) over U.S. Patent No. 6,665,849 to Meuris et al. The rejection is respectfully traversed.

Claim 1 has been amended to recite "a template generation engine interfaced with said GUI and generating multi-dimensional templates from interconnect configuration files" which the field solver uses to determine circuit interconnection electric parameters from the conductor and dielectric inputs. This is neither disclosed nor suggested by Chang et al. The amendment to claim 1 is supported by claims 3, 8 and 9, for example. No new matter has been added.

Since amended claim 1 is neither taught nor suggested by Chang et al., Chang et al. does not teach the present invention as recited by claim 1 as amended. Reconsideration and withdrawal of the rejection to claims 1 – 2 under 35 U.S.C. §102(b) over Chang et al. is respectfully requested.

Meuris et al. teaches a CAD method and system that is useful in an "electromagnetic environment ... [with] a scalar electric potential and a magnetic vector potential. These potentials are not uniquely defined, and in order to obtain a consistent

discretization scheme, a gauge-transformation field is introduced." Abstract, lines 5 – 9. Meuris et al. is concerned with "problem(s) facing the **skilled person** in the solution of field theory problems. For instance, the on-chip interconnect structure in modern ULSI integrated circuits is a highly complex electromagnetic system." Col. 3, lines 47 – 50 (emphasis added). In particular, Meuris et al. teaches a computer method and CAD system for using linear analysis (sparse matrix analysis, vector analysis, etc.) to solve electromagnetic field equations, e.g., Maxwell equations. *See, e.g.*, col. 7, lines 10 – 36. Meuris et al. "provides a consistent solution scheme for solving field problems especially electromagnetic modeling that is based upon existing semiconductor techniques. A **key ingredient** in the latter ones **is** the **numerical solutions method** based on a suitable finite difference method such as the **Newton-Raphson** technique for solving non-linear systems. This technique requires the inversion of large **sparse matrices**, and of course numerical stability demands that the inverse matrices exist. In particular, the finite difference matrix, e.g. a Newton-Raphson matrix should be square and non-singular. The present invention provides **a generic method** for solving field problems, e.g. simulating electromagnetic fields, and is **designed for numerical stability, in particular the solution of partial differential equations by numerical methods**." Col. 5, lines 32 – 40. Specifically, "directly solving the set of modified field equations is performed by **discretizing the set** of modified field equations onto a mesh with nodes and links between said nodes. ... In particular, in the method the **vector potential** is defined on the links of the mesh. ... Hence, a **field vector** field is associated with **an atomic vector** element of the mesh. (Such that) the amount of memory required is reduced as well as speeding up the calculation time." Col. 9, lines 28 – 58. *See also*, col. 19, lines 13 – 55, which describes determining real and imaginary component matrices and performing a Taylor series expansion on the result; col. 20, lines 6 – 54, describing linearization of the Taylor expansion; and col. 26, line 1 – col. 27, line 25. None of this describes using, much less generating, templates.

Clearly, the Meuris et al. numerical method approach is quite different from the present invention as recited in claims 1, 3 and 15. Meuris et al. particularly fails to show a "template generation engine generating templates from interconnect configuration files" as is recited in claims 1, 3 and 15. While a template may have the general form of a set of linear equations, set of vectors, sparse matrix, etc., applying linear analysis methods to a problem is hardly identical to "generating templates from interconnect configuration files." Furthermore, as described in paragraphs 0028 – 0031 of the present application, the preferred graphical user interface is useful for on-chip interconnect analysis and modeling, even for someone not versed of the art of electromagnetic field solvers. This is quite different than Meuris et al., which is addressed to "problem(s) facing the **skilled person** in the solution of field theory problems. For instance, the on-chip interconnect structure in modern ULSI integrated circuits is a highly complex electromagnetic system." *Supra.* Moreover, other than a general reference to a GUI, neither does Meuris et al. teach a GUI for describing, capturing, modifying, and parameterizing semiconductor fabrication process specific on-chip wiring stacks, much less, how the interconnect models can be used in an actual semiconductor circuit, e.g., in a VLSI design. Thus, Meuris et al. does not specifically teach the invention, does not perform "the identical function specified in the claim(s) in substantially the same way," and does not produce "substantially the same results as the corresponding element disclosed in the specification." *See,* MPEP at §2184. Therefore, Meuris et al. neither teaches nor suggests the present invention as recited in claims 1, 3 and 15. Reconsideration and withdrawal of the rejection to claims 1, 3 and 15 under 35 U.S.C. §102(b) over Meuris et al. is respectfully requested.

Furthermore, because, dependent claims include all of the differences with the prior art as the claims from which they depend, claims 2, 4 – 14 and 16 – 28, are neither taught, nor suggested by Meuris et al., alone or, further in combination with any reference of record. Reconsideration and withdrawal of the rejection to claims 2, 4 – 14 and 16 – 28 under 35 U.S.C. §102(b) over Meuris et al. is respectfully requested.

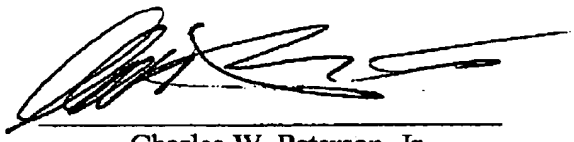
The applicants have considered the other references cited but not relied upon and find them to be no more relevant than the references relied upon for the rejection.

The applicants thank the Examiner for efforts, both past and present, in examining the application. Believing the application to be in condition for allowance both for the amendment to the claims and for the reasons set forth above, the applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1 – 28 under 35 U.S.C. §§102(b) and (e) and allow the application to issue.

Should the Examiner believe anything further may be required, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below for a telephonic or personal interview to discuss any other changes.

Please charge any deficiencies in fees and credit any overpayment of fees to IBM Corporation Deposit Account No. 50-0510 and advise us accordingly.

Respectfully Submitted,



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